Check List the journal of biodiversity data

NOTES ON GEOGRAPHIC DISTRIBUTION

Check List 12(5): 1958, 12 September 2016 doi: http://dx.doi.org/10.15560/12.5.1958
ISSN 1809-127X © 2016 Check List and Authors

First record of *Passiflora pedata* L. (Passifloraceae) from Maranhão state, northeastern Brazil

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Abstract: This study reports the first record of *Passiflora pedata* L. (Passifloraceae) from the state of Maranhão and from the Northeast Region of Brazil. The species was collected in the municipality of Buriticupu, which is located in a remnant of Amazon Forest in western Maranhão. This work adds to the knowledge of the flora of Maranhão and the distribution of *P. pedata* in the Brazilian Amazon.

Key words: Amazon Forest; new record; distribution; Malpighiales

Among the various genera of Passifloraceae s.s. distributed in tropical and temperate regions, four occur in Brazil: *Dilkea* Mast., *Mitostemma* Mast., *Ancistrothyrsus* Harms, and *Passiflora* L. (Cervi 2005; Araújo and Alves 2013; BFG 2015). The latter has the most representatives, with about 520 species (Ulmer and MacDougal 2004; The Plant List 2013), most of them occurring in the Neotropics (Mäder et al. 2009). There are ca. 150 species of *Passiflora* in Brazil, mainly in the states of Amazonas, Pará, and Minas Gerais (BFG 2015).

Passiflora species preferentially live in humid forests, but they may also occur in the Caatinga and Cerrado biomes (Araújo and Alves 2013). The state of Maranhão comprises a transition zone between the Amazon, Caatinga, and Cerrado biomes, resulting varied ecosystems, such as mangroves, flooded fields, Cerrado patches, babassu-palm forests, and rainforests (Muniz 2006; FIEMA 2009). However, the flora of Maranhão is poorly known, and the few publications on this flora are general inventories or ethnobotanical compilations.

Knowledge of the Passifloraceae from state of Maranhão is scarce despite the presence of at least 19 species reported (Bernacci et al. 2016), and the recent addition by Koch et al. (2014) of *Passiflora tholozanii* Sacco that collected in a remnant of Amazon Forest. Here, *Passiflora pedata* L. is reported from the state of Maranhão for the first time. This also represents the first record of the species in the Northeast Region of Brazil.

Field expeditions were undertaken within the boundaries of the municipality of Buriticupu (area of approximately 2,545 km^2), in western Maranhão state. We found only one reproductive specimen of *P. pedata*, growing among the typical vegetation of a fragment of the Amazon Forest (Figure 1). The collected specimen was deposited in the Herbarium Prof. Deusiano Bandeira de Almeida (HENAC) of the Federal University of Maranhão (Codó, Brazil). The taxonomic treatment and geographical distribution are based on the existing literature (Killip 1938; Cervi 1997 and Arozarena 2011; BFG 2015), specimens from the Herbarium Graziela Barroso (University Federal do Piauí, Teresina, Brazil; TEPB), and an on-line database (Tropicos 2016). Morphological terminology follows Cervi (1997), Ulmer and McDougal (2004), and Mondin et al. (2011).

Passiflora pedata L., Species Plantarum 2: 960. 1753. Figure 2.

Climbing vine. Stem subangular, striate, green, pubescent. Tendrils simple well-developed, greenish. Stipules

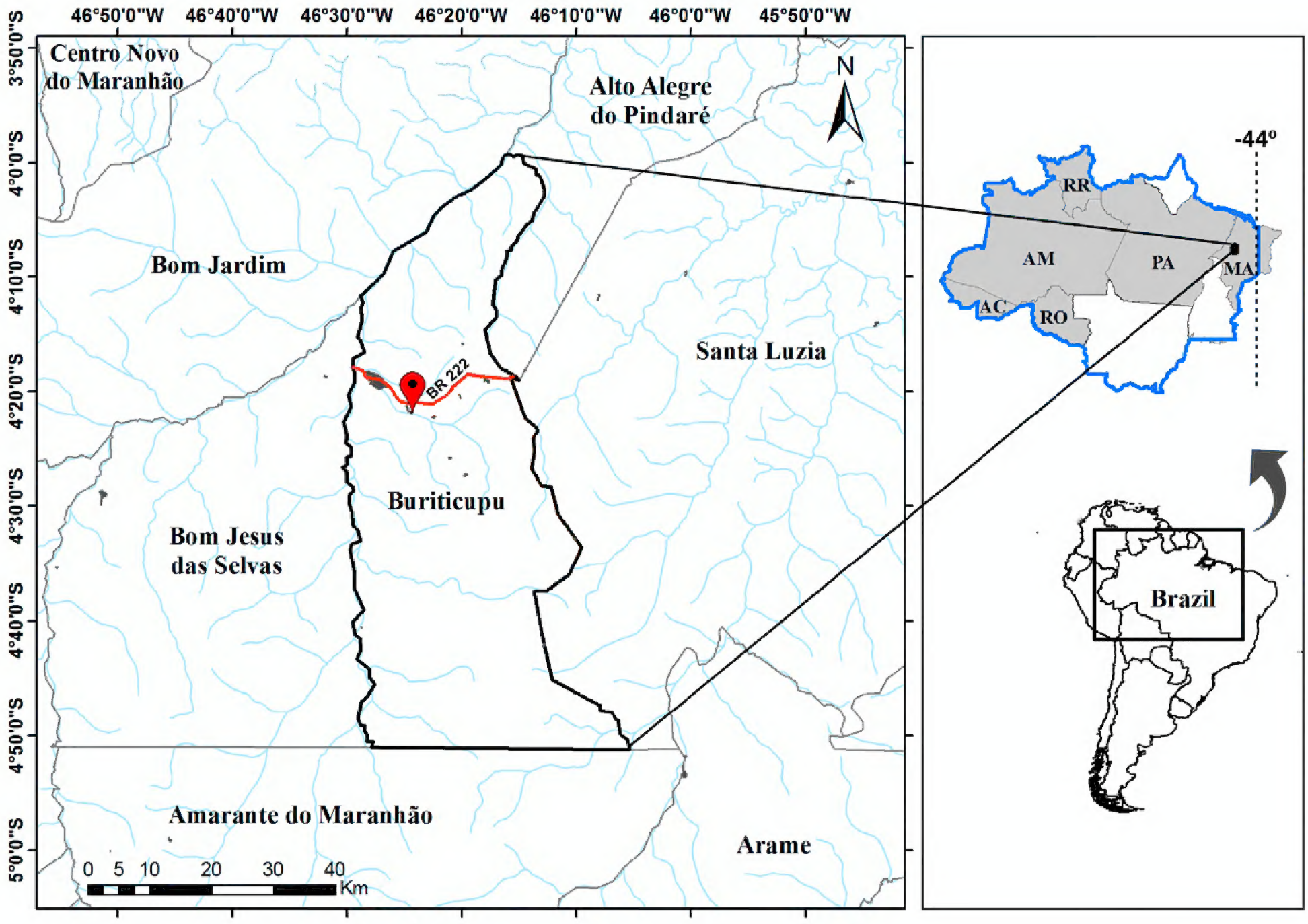

Figure 1. Distribution by state (gray-filled) of *Passiflora pedata* in the Brazilian Legal Amazon (blue line). The new record in Maranhão (MA) indicated by a black square, and in municipality of Buriticupu by a red icon.

linear-subulate, ca. 5 mm long, subfalcate. Petioles 2.5–4.5 cm long, with one pair of stipitate glands on the basal half. Leaves pedately compound, lateral leaflets further 2-parted, with small glands along the margin, leaflets oblong tapering to a petiolule, acuminate; middle leaflet 5.8–7.5 × 1.5–2 cm, lateral leaflets 2-parted to base, slightly smaller than middle leaflet. Flowers solitary, axillary, ca. 8 cm in diameter; peduncle robust, 5.3–5.5 cm long; bracts verticillate, oblong to ovate, 4–5 × 2–2.5 cm, inserted 0.6 mm below flower, margin laciniate-fimbriate; calyx tube campanulate, sepals oblong-lanceolate, 3–3.4 × 0.8–1 cm, awn present, ca. 8 mm long at apex, pale violet; petals linear-lanceolate, 2.6–2.8 × 0.6–0.8 cm, pale violet; corona multiseriate, outer part formed by two series of ligulate filaments, 2–2.5 cm long, corrugated at apex, violet on upper half, transversely striped with purple and white bands from middle to base, inner series capillary, 1–1.5 mm long; operculum membranous, incurved, ca. 4 mm from hypanthium base, margin erect and fimbriate; limen cupuliform, apex dentate; androgynophore 1.5 cm long; ovary ca.7 mm long, ca. 4 mm in diameter, sparsely pubescent. Fruit globose, ca. 4 cm in diameter. Seeds obovoid, ca. 4 × 3 mm, reticulate.

Passiflora pedata was described by Linnaeus (1753), and due to its fimbriate bracts and compound leaves with petiolulate leaflets, Killip (1938) placed it in *P.* ser. *Pedatae*, a position that was validated by Cervi (1997).

Specimen examined: Brazil. Maranhão: Buriticupu, Sagrima, beira da estrada, entre paredões rochosos [road margin, between rock walls formations], 04°21′48″ S, 046°24′21″ W, fl. fr., 18-V-2015, M.S. de Oliveira et al. 01 (HENAC 150).

Additional specimen examined: Nicaragua. Managua: upper south slope rim of Apoyeque, ca. disturbed deciduous forest, 12°13′ N, 086°20′ W, fl., 18-XI-1980, D. Stenes and B.A. Krukoff 18491 (TEPB 4594).

In the municipality of Buriticupu, *P. pedata* was found on a roadside between rocky cliffs, close to waterways in an area undergoing massive deforestation. Of the municipalities in Maranhão, Buriticupu is one of the municipalities with the most extensive deforestation of Amazon Forests. In the state, the average rate of deforestation in this biome up to 2009 was about 1,000 km^2/year (Maranhão 2011; IGBE 2015). This loss of habitat greatly threatens the survival of *P. pedata* and other species dependent on these native forests.

Passiflora pedata occurs in Mexico, Cuba, Haiti, Nicaragua, Costa Rica, Venezuela, Trinidad and Tobago,

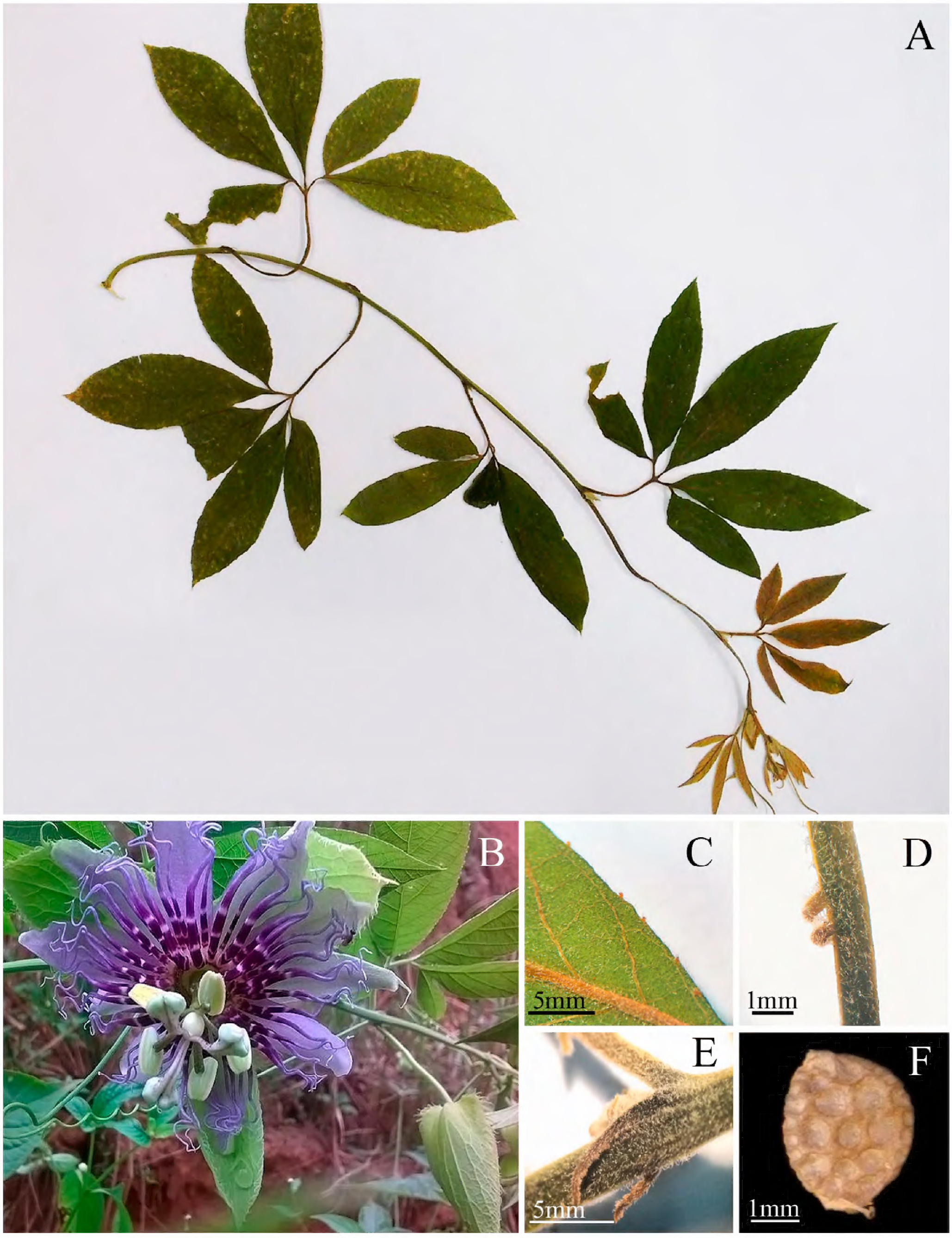

Figure 2. *Passiflora pedata* (HENAC 150). **A.** Habit. B Fertile branch. **C.** Leaf margin abaxial surface with glands on the margin. **D.** Glandular petiole. **E.** Stipules. **F.** Seed.

Guyana, Suriname, and Brazil. In Brazil, it is reported from the states of Acre, Rondônia, Amazonas, Roraima, and Pará. This study reports a new record of *P. pedata* from the state of Maranhão, which is also the first record from the Northeast Region of Brazil.

According to Amador et al. (2013) and Luize et al. (2015) biogeographic information on how Amazonian plants are distributed in extra-Amazonian environments are important, because they show knowledge gaps in occurrence and distribution of species for these environments. Although *P. pedata* occurs in other countries and in the Brazilian Amazon, this new record reinforces the need for more collections in Maranhão, since the state underrepresented in the Brazilian floristic inventories, especially concerning the Amazon biome.

ACKNOWLEDGEMENTS

The authors thank the Federal University of Maranhão, Campus Codó, and the Federal Institute of Maranhão, Campus Buriticupu (IFMA), for providing transportation in the field; Rivânia da Silva Lira (IFMA) for welcoming our team; Dr. Roseli Farias Melo de Barros for allowing us to examine the collection of Passifloraceae in the Herbarium TEPB; our friend Werton Nobre who designed the distribution map; and our specialist friends, Dr. Luís Carlos Bernacci, Renato De Giovanni and Paulo José de Souza, for all clarifications and suggestions.

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Author contributions: EOS, EAEG, MSO and CNOJ collected and photographed the plant. EOS identified the specimen and revised the herbarium collections. EOS, EAEG and AWCF wrote the text.

Received: 29 December 2015
Accepted: 5 July 2016
Academic editor: Marcelo Trovó